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Assesment of Muscular Endurance Owing to Ladder Training: An Experiment

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Abstract

The aim of the research was to investigate the impact of ladder training on football players' muscle endurance. Thirty football players from Bengaluru, Karnataka were randomly chosen as subjects, ranging in age from 18 to 21, in order to fulfil the objectives of the current study. Randomly, the subjects were split into two equal groups. Group II served as the control group, and Group I served as the experimental group (training on ladders). Before the study was administered, the subjects were informed of the requirements for the experiment procedures, testing, and exercise schedule in order to gain their full cooperation and the effort required on their part. The experimental period lasted for six weeks. Following the experimental treatment, the thirty participants underwent tests to measure their muscle endurance. To determine the significance of the mean differences, the pre- and post-test scores were statistically analysed using Analysis of Covariance (ANCOVA). A fixed 0.05 level of significance was applied to all cases when testing hypotheses. It was observed that the six weeks of experimental group have significantly improved the muscular endurance of football players.

Keywords: Ladder Training, Muscular Endurance, Speed

Introduction

An efficient and difficult kind of conditioning is ladder training. It works well to increase coordination, flexibility, strength, and endurance-both anaerobic and aerobic. Because of its adaptability, both the general public and professional athletes like it. Sportsmen and women can use it in the off-season and early pre-season to help build a strong foundation of fitness and prime the body for more strenuous training in the future. An efficient way to perform physical exercises and increase overall muscle endurance is through ladder training. The experimental and control groups were tested for speed, agility, power, coordination, static balance, and dynamic balance both before and after training. An exercise programme that enhances general fitness is ladder training. Regular use of ladder training enhances cardiovascular fitness, flexibility, muscular strength, and endurance.

Methodology

The aim of the research was to investigate the impact of ladder training on football players' muscle endurance. Thirty football players from Bengaluru, Karnataka were randomly chosen as subjects, ranging in age from 18 to 21, in order to fulfil the objectives of the current study. Randomly, the subjects were split into two equal groups. Group II served as the control group, and Group I served as the experimental group (training on ladders). Before the study was administered, the subjects were informed of the requirements for the experiment procedures, testing, and exercise schedule in order to gain their full cooperation and the effort required on their part. The experimental period lasted for six weeks. Following the experimental treatment, the thirty participants underwent tests to measure their muscle endurance. To determine the significance of the mean differences, the pre- and post-test scores were statistically analysed using Analysis of Covariance (ANCOVA). A fixed 0.05 level of significance was applied to all cases when testing hypotheses.

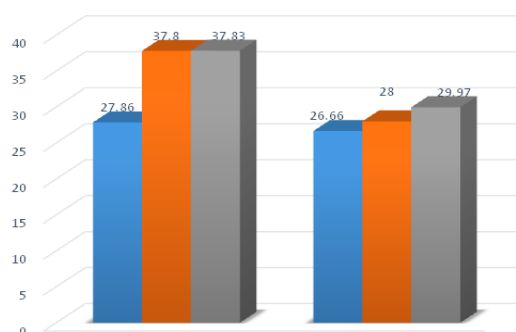
Results

Table – I Computation of Mean and Analysis of Covariance of Muscular Endurance of Experimental and Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	27.86	26.66	BG	10.80	1	10.80	1.81
			WG	167.06	28	5.96	
Post Test Mean	37.80	28.00	BG	720.30	1	720.30	152.32*
			WG	132.40	28	4.72	
Adjusted Post Mean	37.83	29.97	BG	684.92	1	684.92	140.12*
			WG	131.97	27	4.88	

According to the above table, the experimental and control groups' adjusted mean values for muscular endurance were 37.83 and 29.97, respectively. The adjusted mean's obtained F-ratio of 140.12 exceeded the table value of 4.21 for the degrees of freedom 1 and 27, which are necessary for significance at the 0.05 level of confidence. The study's findings suggest that there was a noteworthy distinction in muscular endurance between the experimental and control groups. The aforementioned table also shows a significant difference in the pre- and post-test means between the experimental and control groups. Figure I shows a graphic representation of the pre, post, and adjusted post mean values of muscular endurance for the experimental and control groups.

Figure – I Shows the Mean Values on Muscular Endurance of Experimental Group and Control Groups



Conclusion

1. It was observed that the six weeks of experimental group have significantly improved the muscular endurance of football players.

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